

ABSTRACT

A method of controlling slag characteristics in an electric arc furnace control is disclosed. The furnace has inputs including oxygen supply and carbon supply. The method of controlling slag characteristics includes introducing a charge to be melted into the furnace, melting at least a portion of the charge to produce a melt, and introducing oxygen and carbon into the melt to enhance formation of a slag having slag conditions including a slag height and a slag coverage. To better control the slag characteristics, the slag is modeled and the inputs are controlled to maximize the energy transferred from the electrode to the slag.